Amendments to the Claims

1. (Currently Amended) [[A]] In a weighted round-robin arbitrator comprising:

a plurality of data queues; the improvement comprising:

an arbitration table comprising a plurality of entries, each entry representing a time slot for the transmission of one data packet from a selected one of the plurality of data queues;

an arbitration logic circuit, there being one such circuit for each of the plurality of entries in the arbitration table, comprising:

a first multiplexer receiving an output from a first table entry and an output from a second table entry in the arbitration table;

a second multiplexer receiving empty flags from each of the data queues, the flags indicating that there is no data to [[the]] be sent from that queue, an output of the second multiplexer being coupled to a control input of the first multiplexer whereby the first table entry value is output from the first multiplexer if the corresponding queue has data to be sent out and the second table entry value is sent out from the first multiplexer if the queue corresponding to that table entry has data to be sent out and the queue corresponding to the first entry has no data to be sent out.

2. (Original) The weighted round-robin arbitrator of Claim 1 wherein the second table entry is in juxtaposition to the first table entry.

3. (Original) The weighted round-robin arbitrator of Claim 1 wherein the number of entries in the arbitration table is between 32 and 256.

4. (Original) The weighted round-robin arbitrator of Claim 1 wherein if no data is present in the data queue corresponding to the second table entry, data is selected from the next entry in the table which corresponds to a data queue which has data to be sent out.

5. (Original) The weighted round-robin arbitrator of Claim 1 wherein the table entries are subdivided into multiple subsections, each subsection being processed separately.

6. (Original) The weighted round-robin arbitrator of Claim 5 wherein a carry-look-ahead circuit is used to select the next table entry.

7. (Original) The weighted round-robin arbitrator of Claim 6 wherein empty flags of each subsection are ANDed together to generate a subsection empty signal and wherein the subsection empty signal is used to route the second input to the first multiplexer.

8. (Original) The weighted round-robin arbitrator of Claim 1 wherein the entries in the table are rotated in position after each time slot.

9. (Original) The weighted round-robin arbitrator of Claim 1 wherein data is sent out from one of the date queues during each clock cycle.

10. (Original) A method of weighted round-robin arbitration comprising;

determining if a data queue corresponding to a first table entry in an arbitration table has data to be sent out;

sending out the data in the first entry if data to be sent out is present;

if no data to be sent out is present in the data queue corresponding to the first entry, determined if data in a data queue corresponding to a second entry is ready to be sent out;

sending out the data in the second entry if data to be sent out is present.

11. (Original) The method of Claim 10 further comprising if no data is present in the queue corresponding to the second entry, sending out data from the next entry in the table which has a corresponding queue that has data to be sent out.

12. (Original) The method of Claim 10 wherein the table entries are subdivided into multiple subsections, each subsection being processed separately.

13. (Original) The method of Claim 12 wherein a carry-look-ahead circuit is used to select the next table entry.

14. (Original) The method of Claim 13 wherein the empty flags of each subsection are ANDed together to generate a subsection empty signal and wherein the subsection empty signal is used to route the second input to the first multiplexer.

15. (Original) The method of Claim 11 wherein the table entries are subdivided into multiple subsections, each subsection being processed separately.

16. (Original) The method of Claim 11 wherein a carry-look-ahead circuit is used to select the next table entry.

17. (Original) The method of Claim 10 wherein a carry-look-ahead circuit is used to select the next table entry.

18. (Original) The method of Claim 10 wherein the empty flags of each subsection are ANDed together to generate a subsection empty signal and wherein the subsection empty signal is used to route the second input to the first multiplexer.

19. (Original) The method of Claim 11 wherein the empty flags of each subsection are ANDed together to generate a subsection empty signal and wherein the subsection empty signal is used to route the second input to the first multiplexer.

20. (Original) The method of Claim 12 wherein the empty flags of each subsection are ANDed together to generate a subsection empty signal and wherein the subsection empty signal is used to route the second input to the first multiplexer.

21. (Original) The weighted round-robin arbitrator of Claim 1 wherein the table entry that is sent out is rotated to the end of the table and all slots between this slot and the end of the table are rotated by one position.